

P3-12 Expression of the glucose-kinase gen of
Streptomyces coelicolor in Streptomyces
clavuligerus

M. GARCIA-DOMINGUEZ, J.F.MARTIN,* L. LAIZ, J.G. CALZADA and
P. LIRAS

(Universidad de León, León, Spain)

S. clavuligerus NRRL-3585, producer of clavulanic acid and cephamycin C, is unable to metabolize glucose. We have found that at least partially this is due to lack of glucose-kinase activity. The glucose-kinase gene from S. coelicolor, in a 2.9Kb DNA fragment (H. Ireda, E.T. Seno, C.J. Bruton and K.F. Chater. Mol. Gen. Genet. 196: 501, 1984), has been subcloned in the BglII site of plasmid pIJ702 and amplified into S. lividans. The recombinant plasmid (pULMG1) was transformed into S. clavuligerus NRRL-3585 and a glucose utilizing mutant S. clavuligerus gut1. Glucose-kinase activity was analysed in cell-free extract, after filtration through Saphadex G-25. An activity of 2.1 Units/mg protein was found in S. clavuligerus (pULMG1) a fifty-fold higher level than activity in S. coelicolor. The growth on glucose of the transformed S. clavuligerus strains will be discussed.